DOCUMENT RESUME

ED 279 228 HE 020 061

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| TITLE | The Measurement of Student Achievement and the Assurance of Quality in Virginia Higher Education. Report of a Study Conducted by the Council of Higher Education for Virginia to the Governor and the General Assembly of Virginia. Senate Document No. 14. |
| INSTITUTION | Virginia State Council of Higher Education, Richmond.; Virginia State General Assembly, Richmond. Senate. |
| PUB DATE | Jan 86 |
| NOTE | 22p. |
| PUB TYPE | Reports - Descriptive (141) |
| EDRS PRICE | MF01/PC01 Plus Postage. |
| DESCRIPTORS | *Academic Achievement; Advisory Committees; Articulation (Education); College Preparation; College School Cooperation; Community Colleges; *Educational Assessment; *Educational Quality; Evaluation Methods; *Higher Education; Public Colleges; Public Policy; Remedial Instruction; State Colleges; State Universities; *Statewide Planning; *Student Evaluation |
| IDENTIFIERS | AAHE Assessment Forum; James Madison University VA; *Virginia |

ABSTRACT

A report on ways to measure student achievement to assure quality higher education in Virginia is presented. Attention is directed to: achievement measurement cited in the literature; notable assessment programs at colleges and states outside Virginia; efforts at Virginia's public colleges and universities to measure student achievement, with special focus on a pilot program being implemented by James Madison University (JMU); and recommendations to establish assessment policies and procedures at Virginia's state-supported colleges. A majority of Virginia's community colleges conduct follow-up studies of graduates and some survey dropouts. Student assessment to determine need for remediation is also undertaken. JMU is exploring ways to determine student achievement and has identified four evaluation models that will be tested in four academic departments. Six recommendations for the state are offered, including the following: educators should strengthen the academic relationship between secondary and higher education; state-supported colleges should establish procedures and programs to measure student achievement; and colleges should provide remedial education for students who do not meet the level of skills required. Legislation and a bibliography are appended. (SW)

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REPORT OF STUDY CONDUCTED
BY THE COUNCIL OF
HIGHER EDUCATION FOR VIRGINIA

# The Measurement of Student Achievement and the Assurance of Quality in Virginia Higher Education

TO THE GOVERNOR AND
THE GENERAL ASSEMBLY OF VIRGINIA

## Senate Document No. 14

COMMONWEALTH OF VIRGINIA
RICHMOND
1986

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# THE MEASUREMENT OF STUDENT ACHIEVEMENT AND THE ASSURANCE OF QUALITY IN VIRGINIA HIGHER EDUCATION

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## Introduction.

Senate Joint Resolution 125, passed by the 1985 Virginia General Assembly, directed the Council of Higher Education to conduct a study "to investigate means by which student achievement may be measured to assure the citizens of Virginia the continuing high quality of higher education in the Commonwealth." Appendix 1 is the text of the resolution. This report of the study:

(1) discusses the literature which describes ways to measure student achievement;

(2) describes notable assessment programs developed by institutions and states outside Virginia;

(3) gives examples of efforts made by Virginia's public colleges and universities to measure student achievement, with special attention to the comprehensive pilot program being implemented by James Madison University; and

(4) offers recommendations to establish assessment policies and procedures at Virginia's state-supported institutions of higher education.

## The Measurement of Student Achievement in Higher Education.

Measuring student achievement is an integral part of teaching and learning in higher education. Faculty evaluate students through examinations, written and oral presentations in virtually all courses to determine students' grades and whether or not course objectives are being met.

Recently, however, the public and educational leaders have expressed concern about the limitations of traditional evaluation procedures and have proposed extraordinary means to ascertain how well students are acquiring the knowledge and skills traditionally associated with a college education. These concerns parallel similar questions about the effectiveness of elementary and secondary education.

Some critics use evidence of decline in secondary schools to conclude that the quality of higher education is threatened. The persistent long-term decline in the Scholastic Aptitude Test (SAT) scores of students seeking admission to college, documented by The College Board, suggests that many entering students are not well-prepared for college work. A 1983 study of secondary education by a national commission concluded that the failure of the nation's high schools to produce competent graduates places the country "at risk." The inference is that poor preparation will affect students throughout their college careers and may erode the college curriculum.

More direct evidence of student achievement in higher education is cited in a 1984 National Institute of Education (NIE) report, **Involvement in Learning**, prepared by the Study Group on the Conditions of Excellence in American Higher Education. The report summarizes the results of a study of the Graduate Record Examinations (GRE's), tests taken by students seeking admission to graduate education. The study documents declining GRE scores between 1964 and 1982 for 11 of 15 subject areas tested. Preliminary analyses of specialized professional school entrance examinations--including the Graduate Medical Admissions Test and the Law School Admissions Test-- show similar declines for the same time period. These results provide only general information because the College Board, the Educational Testing Service and other organizations that control test scores will not release institutional or state-by-state comparisons.

The 1984 NIE study called on faculty and academic deans to design assessment programs which evaluate students' knowledge, capacities and skills. The Association of American Colleges, in a 1985 report **Integrity in the College Curriculum**, proposed assessment programs that nurture institutional autonomy and diversity while stimulating educational excellence. The Southern Regional Education Board, in **Access to Quality Undergraduate Education: A Report to the SREB by Its Commission for Educational Quality, 1985**, states that "the quality of undergraduate education is unacceptably low and needs to be raised" and asks that institutions and states continue to pursue the goal of access while ensuring that participation in higher education will have lasting value. As with the NIE study, the SREB

report does not provide state data on student achievement; and neither the SREB nor the NIE study substantiates fully the charge that declines in student achievement are widespread.

The SREB recommends comprehensive programs to upgrade preparation for college work, sustain access through further preparation in remedial programs, establish clear standards for progress through the entire system of higher education, including standardized tests of minimum competence, and provide accountability to the public for student performance. The report emphasizes the major role faculty must play in defining necessary skills and standards, teaching challenging and demanding curricula which incorporate these skills, and providing opportunities to develop and practice them.

Scholars of higher education are addressing the problem of student learning by conducting research and publishing materials that debate the merits of particular approaches amd propose ways to measure achievement. This literature illustrates the importance of defining precisely what is meant by achievement and educational quality, and clarifying the objectives of assessment programs. Various types of assessment are proposed or conducted, as might be expected in a nation with a diverse array of colleges and universities that have different missions and goals. Appendix 2 is a selected bibliography of the relevant literature.

Within institutions assessments are used diagnostically to counsel students and place them into appropriate courses and curricula, evaluatively to determine the success of programs or teaching methods or to certify the acquisition of particular skills, and reflectively to ascertain if institutional objectives and missions are being met. Within systems of higher education the few assessment programs which have been established are intended to evaluate students' basic skill levels, screen applicants for admission to particular programs, or determine students' eligibility to progress into a higher level in the curriculum.

The measures used reveal competing perspectives on what constitutes achievement and how and when it should be measured. Achievement may be defined in terms of cognitive skills or knowledge. Most observers distinguish between general knowledge (for example, the presumed common content appropriate for all baccalaureate candidates) and more specialized knowledge associated with majors or academic disciplines. Advocates of skill testing emphasize the importance of what students can or cannot do rather than what students know. Again, distinctions are made between general functioning skills such as quantitative reasoning, communication or critical thinking, and specialized skills.

Standardized or locally designed tests can measure cognitive growth in general or specific knowledge and skills. The tests may be administered once or offered in a test-retest format.

More pragmatic approaches relate achievement to the development of occupational or professional skills. Assessment often focuses on certifying that graduates have the necessary job-related skills. Employer surveys, student evaluations of the worth of their programs and passage rates on licensing examinations can measure specialized skill development. Students also may be required to engage in actual performances in real or simulated job situations. Some institutions track program graduates into at least their first jobs as a follow-up measure.

Alternatively, cognition may be viewed as part of a broader college experience which includes changes in attitudes, values or behavior patterns, the inculcation of the attributes of good citizenship, or the development of disciplined intellectual habits of mind. Student achievement in this context is assessed by psychological testing instruments or by surveys of student attitudes or satisfaction with the college experience.

These multiple perspectives on the measurement of student achievement represent different dimensions of the many purposes and expectations associated with higher education. Criteria used to measure achievement reflect this diversity. But two broad approaches to measurement may be identified.

The "value-added" approach --sometimes also referred to as the "outcomes" or "talent development" approach-- focuses on net gains in student achievement over time. Advocates of this approach attempt to measure directly the influence of an institution or curriculum on student achievement through pre- and post-tests. This evaluation technique is intended to disregard non-institutional factors affecting achievement-- for example, family background, pre-college preparation, personal aspects of students' lives during college-- in order to isolate the changes resulting from a student's academic experience alone. Students are assessed for entering competencies and then reassessed following the completion of appropriate courses to measure growth in achievement based on students' improvement. The focus is on change rather than the absolute level of achievement reached. Several dimensions of learning can be measured, each defined in relationship to institutional or program purposes and objectives, taking into account differences in mission and student clienteles.

A second approach focuses on the attainment of a specified standard of student achievement, recognizing the demand that institutions and programs educate students with an assured level of basic or professional skills. Advocates of the "attainment" view argue that all college students, for example, should achieve a minimum level of competence to qualify as college graduates; or that all program graduates should have a designated level of competence to qualify for admission to the profession or further training. No attempt is made to determine whether or not factors other than the college academic experience influenced the level of learning achieved.

Using this approach, institutions can establish standards to mark student progress through the curriculum, including standards for admission, remediation, general education, enrollment in advanced courses or majors, and graduation. The student attainment approach affirms the importance of widely shared expectations and standards for general or specialized competencies that all students participating in higher education should achieve regardless of differences in institutional missions or students served.

## Examples of Assessment Programs in Other States.

Traditional institutional measures of quality did not focus on student achievement, but emphasized instead peer rankings and resources. Ranks were based on institutional size, prestige or selectivity. Early versions of student-related assessment focused on general measures of professional or academic success, for example, the proportion of an institution's graduates listed in Who's Who, the percentage entering graduate or professional school, or the number earning doctorates. These measures are beneficial to selective institutions, those widely known with secure reputations, and those enjoying historically strong financial support from public and private sources. Newer institutions, those undergoing recent mission changes, and those with a commitment to broad student access, feel disadvantaged by this approach and tend to endorse a "value-added" assessment program.

Examples of assessment programs developed recently by institutions in other states include the following:

(1) The program at Northeast Missouri State University is a widely-cited illustration of value-added assessment. The institution: (a) uses standardized tests to evaluate students' general education, measuring knowledge gained by comparing individual scores on tests administered during both the freshmen and junior years; (b) determines achievement in the major by giving students either the Graduate Record Examination for that field or a pre-professional certification test, comparing average scores with national norms when possible; and (c) surveys student attitude changes through standardized tests administered at different points in the students' career, including alumni. The university administration distributes results to departments for curriculum development and program evaluation, and to the state legislature to compete for funds and demonstrate accountability.

(2) Miami-Dade Community College serves a large, urban, culturally diverse student body. Faced with the problem of advising students and monitoring their success, the college began a program of competency testing backed by an automated support system for advising and placement. The college administers entrance examinations to evaluate students' ability to qualify for particular programs, monitors progress to detect early signs of difficulty and produces computerized individual advising profiles that identify courses for which a student is eligible and those needed to complete a program. The assessment program promotes individual student success rather than departmental or curriculum improvements.

(3) The program at Alverno College (Milwaukee, Wisconsin) emphasizes a close relationship among the institution's mission, curriculum, and student services. As a small college, Alverno is committed to effective teaching, personal student counseling and a cohesive institutional culture. Beginning in 1973 the college identified eight basic "skills that last a lifetime" and built its curriculum around them. Faculty identified six increasingly complex levels of skill development and organized their courses by selecting from among the skills and levels. The college assesses student achievement of these skills by evaluating student performance on assigned tasks or in decision-making situations. Members of the local business and professional community assist the institution in the evaluation. The college gives students their test results and encourages self-improvement by involving students in their own evaluation. Faculty and administrators offer counsel and advice on student plans to improve performance. An Office of Research and Evaluation assesses the curriculum, student development and teaching. The office is conducting a study over a period of several years using standardized and locally developed tests to determine the influence of the curriculum on students.

(4) The University of Tennessee, Knoxville, is a research institution serving a diverse student body. The state provides incentive funding to institutions that develop assessment procedures to improve programs. In response to the state initiative, the university established a faculty task force to evaluate available tests measuring general education, knowledge in the disciplines and professions, and student satisfaction. On the recommendation of the task force, the institution designed a comprehensive testing program and established pilot assessment projects in 14 departments. Faculty in seven of those departments selected either standardized or local tests of student knowledge; the other seven chose measures of student and alumni satisfaction. The Learning Resource Center offers technical advice and summarizes results.— The administration provides financial incentives to departments showing improvements, but gives the academic unit responsibility to develop the assessment procedures.

Several institutions require students to pass proficiency examinations before taking upper division course work, including the University of Massachusetts at Boston, the University of Arizona and The City University of New York. These tests focus on general skills such as reading, writing and mathematics rather than on knowledge or skills associated with specific courses in the curriculum.

At the state level, there are several assessment programs to measure student achievement in high school.

(1) Florida requires students enrolling in college to take a standardized entrance examination which evaluates basic communication and computation skills. Students whose test scores indicate a need for remediation are required to enroll in "college preparatory" programs. Four-year colleges and

universities establish contracts with community colleges to conduct this instruction, and students do not receive college degree credit for the work.

(2) The New Jersey Basic Skills Placement Test evaluates students' writing, computation, reading and grammar. It is used for counseling and course placement. The California State University has a similar examination that serves as a diagnostic tool to help students select appropriate courses.

(3) The Early Testing Program supported by the Ohio Board of Regents administers a mathematics placement examination to high school juniors. The results are analyzed by the state's public colleges and universities and students are able to take appropriate courses and overcome deficiencies during their senior year before entering college.

(4) Minnesota has an early admissions program for high school students who demonstrate college-level skills and knowledge. The program permits qualified juniors and seniors to enroll in college for the remainder of their high school years without paying tuition.

A few states have achievement tests for students already enrolled in college.

(1) Mississippi requires a test of general education skills for students seeking admission to teacher education programs.

(2) Florida administers the College Level Academic Skills Program (CLASP) to all students seeking advancement to upper division courses and programs.

(3) The University System of Georgia's Regents' Testing Program, established in 1972, is designed to ensure that students receiving degrees from institutions possess "literacy competence," defined as minimum reading and writing skills. Students take the test initially during the sophomore year. Those not passing both parts of the test by the middle of their junior year are required to take remedial courses. No limits are established for the number of times a student may take remediation and retake the test.

(4) The California State University System requires that each campus develop its own means of assessing students' writing skills and mandates that each undergraduate and graduate student demonstrate writing proficiency before graduation.

(5) The Tennessee Performance Funding Program relates student assessment directly to state appropriations. A five percent supplement to the state appropriation for higher education is distributed among institutions based on their ability to achieve outstanding performance on five criteria: the percent of accreditable programs accredited, the value added to students' general education, student performance in the major, student satisfaction and plans to improve programs through institutional evaluation procedures. The

five variables are weighted and institutions are graded on a scale of 100. Funding supplements are awarded based on the percentage attainment of the maximum score. Institutions decide how to validate their performance and select the instruments to demonstrate student achievement.

Both institutional and state-wide assessment programs require expenditure of scarce resources. The National Center for Higher Education Management Systems (NCHEMS) has developed cost estimates for four types of institutional programs, including the costs of designing instruments or purchasing standardized examinations, administering tests to students, analyzing the results and coordinating the process (Ewell and Jones, 1985). NCHEMS estimates the annual cost to a small liberal arts college of a value-added assessment program at slightly more than $29,000. This includes a standardized national examination administered to incoming freshmen and graduating seniors, a yearly consultation visit from the test design staff, an attitude survey of all freshmen and a sample of other students, and an alumni survey conducted every three years. For a major public research university of approximately 20,000 undergraduates, a program of standardized tests for graduates of about ten programs per year combined with a sample survey of college student life could cost more than $120,000 a year.

New Jersey's Basic Skills Assessment Program costs approximately $500,000 annually for 50,000 to 60,000 test takers, plus four staff for state level administrative support. The Florida College Level Academic Skills Test cost the state approximately $500,000 to design and now carries annual costs estimated at $500,000 plus state-level coordination and institutional test administration.

A comprehensive program which includes assessment for diagnostic purposes and surveys all students rather than a sample population will be significantly more costly.

## Assessment Activities at Virginia's Public Colleges and Universities.

The Council staff requested Virginia's state-supported institutions of higher education to submit descriptions of their current assessment activities. Examples, based on their responses, follow.

(1) A majority of the community colleges conduct annual or semi-annual follow-up studies of program graduates to obtain information on students' perception of their college experience and their current employment status. A few institutions also conduct periodic studies of students who leave the college before completing a program, to determine their reasons for leaving and their current activities. Each college tests some students to determine their need for remediation. These tests are used for placement and advising and to assess students' readiness to take college-level programs.

(2) Lord Fairfax and Piedmont Virginia Community Colleges have conducted studies of former students' success after transferring to George Mason University and the University of Virginia respectively. The Piedmont program includes a value-added assessment to determine student progress at the community college prior to entering the university and to relate this improvement to the students' performance at the university.

(3) The University of Virginia uses published reputational surveys to determine its students' achievements and concludes from this information that the institution has national standing as one of the top ten state universities in perceived quality of undergraduate education. The information referred to includes a survey analysis of college guides and profiles and articles in periodicals and news stories reviewing reputational studies. Institutional analyses of entering freshmen indicate that about two-thirds had at least an A- grade-point average in high school, and that approximately 85 percent will attain the baccalaurate degree within six years with an average college grade of B.

Individual schools within the university compile information on job placement, salaries, and subsequent degrees earned for graduates. The university also determines the percentage of graduates applying to and accepted by medical and law schools and compares Graduate Record Examination scores of graduates with national averages for verbal, quantitative and analytical tests.

(4) Virginia Military Institute monitors each cadet to determine his progress, class standing and grades. The Alumni Association publishes a directory of graduates that describes employment, additional degrees and community interests. The Career Development Center is initiating an opinion survey of graduates on the VMI experience.

(5) Old Dominion University annually surveys the previous year's graduates to identify their employment status. The university requires a passing score on an "Exit Writing Examination" for graduation.

(6) Richard Bland College gave a random sample of graduating students the American College Testing Program College Outcomes Measures examination in 1985. Scores will be compared to another random sample of students entering as freshmen in Fall 1985, with plans to re-test this group in Spring 1987.

(7) Virginia Polytechnic Institute and State University maintains detailed records of student job placements and offers an alumni placement service that permits further tracking of graduates. Various colleges within the university conduct exit interviews, maintain records of post-graduate activities, and compare VPI students' scores on standardized licensing examinations with national norms.

(8) Longwood College has, since 1981, implemented a program to assess student accomplishment of 14 goals. The goals were proposed by the president after consultation with alumni, faculty, students and literature on higher education and defined as competencies involving knowledge, skills and attitudes. They include intellectual goals such as critical thinking and an understanding and appreciation of the sciences, career goals such as effective communication and a sense of direction, social goals such as responsible citizenship, and personal goals such as leisure skills and a sense of well-being. The college provides students with "maps" to identify opportunities on campus to help achieve the goals.

Convinced by the authors of the National Institute of Education report on higher education that students should be active in the assessment process, the college adopted a student self-assessment instrument to measure progress toward each goal. The institution also provides opportunities for group discussion and individual counseling based on the results.

In addition to these institutional programs, individual departments and schools at many state-supported colleges and universities have assessment procedures more directly related to specific program goals. The School of Education at Virginia Commonwealth University, for example, requires students to demonstrate minimum reading, writing and mathematical skills before admission to student teaching. The College of Education at VPI&SU has a value-added assessment program and administers the Missouri English Test to all its undergraduates. The Philosophy Department at the College of William and Mary keeps track of graduates' careers.

Perhaps the assessment effort with the greatest potential for all of Virginia higher education has been undertaken by James Madison University. The 1985 General Assembly appropriated $125,000 to Madison to begin a program called "Initiatives for Excellence and Accountability: A Five Year Plan." The program entails a comprehensive review of the curriculum and related activities. As a first priority, a university-wide evaluation and assessment committee is exploring means to determine student achievement. Faculty and administrative committees also are examining admissions, advising and orientation, general education, the ways in which the university challenges students, student learning outside the classroom, programs for outstanding students, departmental governance and faculty relations, and the development of common objectives for all courses. Each committee is seeking ways to assess the program of change it designs.

During 1985-86 the assessment committee is engaged in a pilot project to determine what forms of evaluation are most suitable for JMU to adopt. The university has identified four evaluation models and is testing them in four academic departments to identify their strengths and weaknesses and to propose a JMU model for further use. The models include: (1) a discrepancy evaluation which allows a faculty to set its own standards by which to measure student achievement and determine the gap between student performance and the established objectives; (2) a value-added assessment based on the

Northeastern Missouri State University program described above, which permits external comparisons between an institution and its peers and focuses on the influence of the institution on student learning; (3) the Alverno College model described above, which emphasizes diagnostic use of tests to measure student development and guide course selection and assesses student performance on problem-solving tasks; and (4) a student outcomes program based on the Tennessee Performance Funding Program, which employs standardized and locally developed tests to determine students' achievement.

The goal of the pilot project is to design a comprehensive evaluation program for the university coordinated through an office of student assessment. The institution is proposing to implement the first stage of the program in 1986-87, including entry level performance tests for incoming freshmen, perhaps focused on groups of special students such as high risk or gifted freshmen; tests of student performance in the general education program of liberal studies and for the common course objectives; exit examinations of performance in the major, including performance measures in appropriate disciplines; and assessment of student and alumni attitudes about the undergraduate experience at JMU. The university is now deciding the extent to which the assessment program will be used not only to measure student achievement but also as a diagnostic tool for counseling and advising students and as a means of program evaluation.

## Recommendations for Measuring Student Achievement at Virginia's Public Colleges and Universities

Citizens of the Commonwealth, parents and students have a right to hold institutions of higher education accountable for effective teaching and learning. Institutions can benefit from more systematic knowledge of student achievement. The Council recommends against a system-wide minimum competency testing program for Virginia as the best means to measure student achievement. This approach lacks several characteristics of a good assessment program. It promotes standardization, is insensitive to important institutional differences in mission and curriculum, ignores broader educational objectives which should be assessed, threatens to establish minimums as the norm, and fails to contribute to improvement of the teaching and learning that occur in classrooms. Virginia has worked long and carefully to nurture a diverse set of colleges and universities. It is not appropriate to impose a single statewide test upon this diversity.

The Council proposes an alternative approach to measure student achievement that encompasses a wider range of educational objectives. The Council thinks this approach will preserve the diverse system of public colleges and universities in Virginia and maintain the Commonwealth's commitment to access and quality in higher education.

Assessment programs alone will not guarantee improvements in student achievement. Complementary actions are needed to strengthen education programs at all levels of formal schooling, from elementary through graduate education. The increased requirements for high school graduation recently established by the Board of Education, for example, should improve students' preparation for college. Institutions of higher education should support this change by upgrading their admission requirements, with special emphasis on the academic courses completed in high school. Attention should be focused on the elementary and middle or junior high school curricula to ensure that students will be prepared and motivated to pursue the more stringent optional academic diploma. Colleges and universities should examine the relationship between the undergraduate and graduate curricula and evaluate graduate and professional education to assess quality and identify ways to improve these programs.

The Council recognizes that assessment can be costly. As institutions establish their programs, they will have to consider ways to minimize costs, by using information already available, by employing sampling techniques, and by adopting standardized tests of achievement where feasible.

The Council recommends the following actions as the best means to measure student achievement at the Commonwealth's colleges and universities.

**Recommendation 1:** That the academic relationship between secondary and higher education be strengthened:

(a) By developing programs such as the Ohio Board of Regents' Early Testing Program to help high school students prepare for college and the Minnesota early admissions program to reward those who demonstrate an ability to do college-level work; and

(b) By providing reports from colleges and universities that tell the high schools how well their former students are doing in college.

**Recommendation 2:** That all state-supported institutions of higher education establish procedures and programs to measure student achievement. These programs should:

(a) Derive from institutional initiatives, recognizing the diversity of Virginia's public colleges and universities, the tradition of institutional autonomy, and the capacity of faculty and administrators to identify their own problems and solve them creatively;

(b) Be consistent with each institution's mission and educational objectives;

(c) Bear a direct relationship to teaching and learning in the classroom, enabling faculty to use the results to address student deficiencies, evaluate and improve the curriculum, and develop better teaching techniques;

(d) Involve faculty in setting the standards of achievement, selecting the measurement instruments and analyzing the results;

(e) Consider the relative importance of both assessment to determine student attainment as measured by an absolute standard and assessment of student growth in learning attributable to the influence of the institution;

(f) Follow student progress through the curriculum, as appropriate, with consideration of achievement measures (1) at transition points to ensure student readiness to proceed, (2) upon completion of the major, and (3) at graduation or on leaving the institution; and

(g) Include follow-up of graduates through employer surveys, studies of participation rates in further education and alumni reports of career progress.

**Recommendation 3:** That institutions administer tests to determine the entry-level skills of students whose past performance, as defined by high school grades or Scholastic Aptitude Test scores, indicates they might have difficulty doing college-level work; and that each institution identify a minimum threshold of achievement to qualify for college degree-credit courses.

**Recommendation 4**: That institutions with students whose skills fall below the threshold established for college-level work provide remedial education to maintain access while improving the quality of students' performance prior to full participation in degree credit courses. Where possible, remediation for students at four-year institutions should be arranged through agreements with community colleges. No credit toward a degree should be awarded for remedial work.

**Recommendation 5**: That an advisory committee to the Council of Higher Education be established to develop guidelines for designing good assessment programs, to assist the institutions on request to develop the programs, and to advise the Council on progress in this area.

**Recommendation 6**: That the state-supported colleges and universities submit annual reports of progress in developing their assessment programs and concrete, non-anecdotal and quantifiable information on student achievement to the Council of Higher Education. The reports should include information about the achievement of transfer students from the community colleges enrolled in four-year colleges and universities and about the performance of professional program graduates on licensing and certification examinations. The Council should publish results of the assessment programs and reports of other actions to strengthen educational quality in its biennial revisions to the Virginia Plan for Higher Education.


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Appendix 1

Text of Senate Joint Resolution 125

# SENATE JOINT RESOLUTION NO. 125

*Requesting the State Council of Higher Education to study the quality of higher education in the Commonwealth.*

Agreed to by the Senate, February 22, 1985
Agreed to by the House of Delegates, February 20, 1985

WHEREAS, Virginia's public institutions of higher education are a source of pride to the Commonwealth and the basis for the State's continued economic and cultural growth; and

WHEREAS, Virginia has an investment in excess of $1 billion in physical plant and over $300 million in equipment in its institutions of higher education; and

WHEREAS, Virginia historically devotes over seventeen percent of its general funds in the biennial budget to higher education, which amounts to over $1.3 billion in general funds in the current biennium; and

WHEREAS, continued, broad public support for Virginia's system of higher education is essential to the system's growth and well-being; and

WHEREAS, various studies of higher education have raised questions about curriculum requirements, quality of instruction, and student achievement in the nation's colleges and universities; now, therefore, be it

RESOLVED by the Senate, the House of Delegates concurring, That the State Council of Higher Education conduct a study on student achievement in Virginia's public higher education system, and to investigate means by which student achievement may be measured to assure the citizens of Virginia of the continuing high quality of higher education in the Commonwealth.

In conducting its review, the Council is requested to seek advice from Virginia's colleges and universities.

The Council should submit its findings and recommendations to the 1986 Session of the General Assembly.

The costs of this study, including direct and indirect costs, are estimated to be $16,110.

Appendix 2

Selected Bibliography of Literature on
the Assessment of Student Achievement



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Selected Bibliography of Literature on
the Assessment of Student Achievement


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